



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
[www.uspto.gov](http://www.uspto.gov)

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/826,021	04/04/2001	Wanlie Zheng	6845-28	3772
23973	7590	01/20/2004	EXAMINER	
DRINKER BIDDLE & REATH ONE LOGAN SQUARE 18TH AND CHERRY STREETS PHILADELPHIA, PA 19103-6996			CIRIC, LJILJANA V	
		ART UNIT	PAPER NUMBER	
		3753		

DATE MAILED: 01/20/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

<h3 style="margin: 0;">Office Action Summary</h3>	Application No. <b>09/826,021</b>	Applicant(s) <b>Zheng et al.</b>
	Examiner <b>Ljiljana V. Ciric</b>	Art Unit <b>3753</b>

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.  
 If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.  
 If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.  
 Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).  
 Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

1)  Responsive to communication(s) filed on Feb 4, 2003 and May 14, 2003

2a)  This action is FINAL.      2b)  This action is non-final.

3)  Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

**Disposition of Claims**

4)  Claim(s) 1, 3-9, 11, 12, and 14-24 is/are pending in the application.

4a)  Of the above, claim(s) 15-18 is/are withdrawn from consideration.

5)  Claim(s) \_\_\_\_\_ is/are allowed.

6)  Claim(s) 1, 3-9, 11, 12, 14, and 19-24 is/are rejected.

7)  Claim(s) \_\_\_\_\_ is/are objected to.

8)  Claims \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

9)  The specification is objected to by the Examiner.

10)  The drawing(s) filed on \_\_\_\_\_ is/are a)  accepted or b)  objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)  The proposed drawing correction filed on Feb 4, 2003 is: a)  approved b)  disapproved by the Examiner.  
If approved, corrected drawings are required in reply to this Office action.

12)  The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

13)  Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)  All b)  Some\* c)  None of:  
 1.  Certified copies of the priority documents have been received.  
 2.  Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
 3.  Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\*See the attached detailed Office action for a list of the certified copies not received.

14)  Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).  
a)  The translation of the foreign language provisional application has been received.

15)  Acknowledgement is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)	4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____
2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)	5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)
3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s). _____	6) <input type="checkbox"/> Other: _____

Art Unit: 3743

**DETAILED ACTION**

***Response to Amendment***

1. This Office action is in response to the amendments and arguments filed on February 4, 2003 and on May 14, 2003.
2. Claims 1, 3 through 9, 11, 12, and 14 through 24 remain in the application. Of these, claims 19 through 24 are new (i.e., previously unexamined), while claims 15 through 18 remain withdrawn from consideration as explained in greater detail below. The remaining claims are as amended.

***Response to Arguments***

3. Applicant's arguments with respect to the prior art rejections of the claims as cited in the previous Office action have been considered but are moot in view of the new ground(s) of rejection.

Applicant is nevertheless respectfully reminded that claims in a pending application should be given their broadest reasonable interpretation. *In re Person*, 181 USPQ 641 (CCPA 1974).

Applicant is also respectfully reminded that claims directed to apparatus must be distinguished from the prior art in terms of structure rather than function. *In re Danly*, 263 F.2d 844, 847, 120 USPQ 528, 531 (CCPA 1959). Also, “[A]pparatus claims cover what a device is, not what a device does. (Emphasis in original). *Hewlett-Packard Co. v. Bausch & Lomb Inc.*, 909 F.2d 1464, 1469 15 USPQ2d 1525, 1528 (Fed. Cir. 1990).

Art Unit: 3743

The examiner also wishes to note that, while as previously stated, the amendments and arguments have indeed generally obviated the rejections of the claims under 35 U.S.C. 112, second paragraph, as cited in the previous Office action, the amendments nevertheless have not altogether avoided indefiniteness problems in the claims. Instead, the amendments have introduced a few new indefiniteness problems into the claims as noted in greater detail below.

***Election/Restriction***

4. Claims 15 through 18 hereby remain withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected invention, i.e., Group II, there being no allowable generic or linking claim. Election was made without traverse in Paper No. 4.

***Information Disclosure Statement***

5. The listing of references in the specification is not a proper information disclosure statement. 37 CFR 1.98(b) requires a list of all patents, publications, or other information submitted for consideration by the Office, and MPEP § 609 A(1) states, "the list may not be incorporated into the specification but must be submitted in a separate paper." Therefore, the SAE and ASTM standards cited in page 2 of the specification have still not been considered by the examiner.

***Drawings***

6. The proposed drawing correction and/or the proposed substitute sheets of drawings, filed on February 4, 2003, and received on February 10, 2003, have been approved. A proper drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The correction to the drawings will not be held in abeyance.

Art Unit: 3743

***Specification***

7. The abstract of the disclosure is objected to because it fails to clearly and concisely summarize the main structural characteristics of the inventive apparatus. Furthermore, the subject matter of the various sentences of the abstract fails to clearly correlate. For example, the relationships (if any) between the heat transfer apparatus of the first sentence and either the cold cranking simulator or the hybrid heat transfer system of the third sentence are not clear at all. Correction is required. See MPEP § 608.01(b).

***Claim Objections***

8. Claims 1, 3 through 9, 11, 12, and 14 are objected to because of the following informalities, for example: “the internal passages” [claim 1, line 7; claim 9, line 9] should be replaced with “the at least two internal passages” or with “each of the at least two internal passages” for improved consistency and clarity; “counter-flowing” [claim 1, line 13; claim 9, line 15] should be replaced with “counter-flow” for improved grammatical correctness; and, “each of the heat sinks” [claim 4, line 2; claim 12, line 2] should be replaced with “each of the plurality of heat sinks” for improved consistency and clarity. Appropriate correction is required.

***Claim Rejections - 35 U.S.C. § 112***

9. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

10. Claims 1, 3 through 9, 11, 12, 14, and 21 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Art Unit: 3743

Each of base claims 1 and 9 first recite the limitation “at least two internal passages” [claim 1, line 6; claim 9, lines 7-8], then subsequently recites the limitation “the two internal passages” [claim 1, lines 10-11; claim 9, lines 12-13} and the limitation “the two passages” [claim 1, line 12; claim 9, line 13], yet it is not particularly clear whether the latter two limitations refer to *all of or only to a particular two of* or to *none of* the preceding “at least two internal passages”, thus rendering indefinite claims 1 and 9 and all claims depending therefrom.

Similarly, each of claims 4, 5, and 12 as written recite the limitation “the two passages”, but it is not entirely clear whether this limitation refers to *all of or to only a particular two of* or to *none of* the “at least two internal passages” as cited in line 6 of claim 1 from which 4 and 5 ultimately depend and as also cited in lines 7-8 of claim 9 from which claim 12 ultimately depends, thus rendering indefinite the intended scope of protection sought.

There is insufficient antecedent basis in the claim for the limitation “the other three wall sections” as recited in lines 2-3 of claim 21. Furthermore, it is not clear whether the “one wall section” recited in line 2 of the claim and the “other three wall sections” recited in lines 2-3 of the claim refer to sections of the wall referred to in line 2 of claim 19 from which claim 21 depends or to sections of some other wall, thereby rendering indefinite the metes and bounds of protection sought by the claim.

***Claim Rejections - 35 U.S.C. § 102***

11. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless -

Art Unit: 3743

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

**NOTE:** The above reflects changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002.

12. As best can be understood in view of the indefiniteness of claims 1, 3, 5 through 9, 11, 14, and 21, claims 1, 3, 5 through 9, 11, 14, and 19 through 24 are rejected under 35 U.S.C. 102(e) as being anticipated by *Ketonen et al.*

*Ketonen et al.* discloses a heat transfer apparatus essentially as claimed, including, for example: a heat conveying member including at least two internal passages spaced apart from each other through at least a portion of the heat conveying member [see the two parallel horizontal passages as depicted in Figures 1A and 1B], an inlet 30, an outlet 32, a passage splitter connected to the inlet 30 and to the first ends of the two internal passages [see the "T" portion including inlet channel 28 in Figures 1A and 1B]; a passage union connected to the outlet 32 and to the second ends of the two internal passages [see the "T" portion including outlet channel 24 in Figures 1A and 1B]; a plurality of heat sinks 12 and 14, wherein the at least two internal passages extend through at least a portion of the heat sinks 12 and 14 as shown in Figures 1A, 1B, 2, and 3; at least one heat exchanging element comprising thermoelectric modules or electrical heat transfer devices

Art Unit: 3743

or thermal electrical units such as heat emitting power transistors 44 or 54. Either top surface 16 (which includes "receptacles" for the power transistors 44) as shown in Figure 2 or cover 56 as shown in Figure 3 are broadly readable on the receptacle as recited in the claims. Alternately, elements 12 and 14 of *Ketonen et al.* are readable on the wall or wall sections as recited in claims 19 through 24 of the instant application. Little or no patentable weight has generally been accorded to intended use limitations in the claims, as well as to clauses including "adapted to" or "adapted for" language, as appropriate.

Thus, the reference reads on the claims.

13. Alternately, and as best can be understood in view of the indefiniteness of the claims, claims 1, 3, 6 through 9, and 11 are rejected under 35 U.S.C. 102(b) as being anticipated by *Wigert*.

*Wigert* [especially the embodiment of Figure 6] discloses a heat transfer apparatus essentially as claimed, including, for example: an evaporator 12 or 12' broadly readable on the "receptacle" as recited in the claims of the instant application; at least one electrical or "thermoelectric" heat exchanging element at least broadly readable on each lamp 24 disposed in heat transfer relation to the receptacle or evaporator 12 or 12'; a heat conveying member 42 including at least two internal passages 54 spaced apart from each other through at least a portion of the heat conveying member 42, the heat conveying member 42 formed from a plurality of heat sinks or fins 44 interconnected to one another so as to surround a portion of the receptacle or evaporator 12 or 12' on one side thereof; an inlet 22, an outlet 20, a passage splitter 52 connected to the inlet 22 and to the first ends of the two internal passages 54; a passage union 56 connected

Art Unit: 3743

to the outlet 20 and to the second ends of the two internal passages 54. Little or no patentable weight has generally been accorded to intended use limitations in the claims, as well as to clauses including "adapted to" or "adapted for" language, as appropriate.

Thus, the reference reads on the claims.

14. Alternately, and as best can be understood in view of the indefiniteness of the claims, claims 1 and 6 through 9 are rejected under 35 U.S.C. 102(b) as being anticipated by *Ikegami et al.*

*Ikegami et al.* discloses a heat transfer apparatus essentially as claimed, including, for example: a tank 8 broadly readable on the "receptacle" as recited in the claims of the instant application; at least one electrical or "thermoelectric" heat exchanging element at least broadly readable on each thyristor module 5; a heat conveying member including at least two internal passages with each passage corresponding to a set of pipes 16a and 16b, the at least two internal passages spaced apart from each other through at least a portion of the heat conveying member, the heat conveying member; an inlet and an outlet each disposed at corresponding coupling 15 as shown in Figures 1 or 4 or 6, a passage splitter 14a connected to the inlet and to the first ends of the two internal passages; a passage union 14b connected to the outlet and to the second ends of the two internal passages. Little or no patentable weight has generally been accorded to intended use limitations in the claims, as well as to clauses including "adapted to" or "adapted for" language, as appropriate.

The reference thus reads on the claims.

Art Unit: 3743

***Allowable Subject Matter***

15. As best can be understood in view of the indefiniteness of the claims, it appears that claims 4 and 12 would be allowable if rewritten, without significant broadening, to overcome the rejection(s) under 35 U.S.C. 112, second paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

***Conclusion***

16. The following additional prior art made of record and not relied upon is considered pertinent to applicant's disclosure. *Kim, McCarthy, Weber et al., Hatfield, and Frey et al.* each discloses a viscosimeter or rheological property test system including internal passages and/or heat transfer means associated therewith. *Spreen, Sundbach, and Heide et al.* each discloses a heat transfer apparatus including plural passages and flow connections.

17. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Art Unit: 3743

18. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ljiljana (Lil) V. Cirim, whose telephone number is (703) 308-3925.

While she works a flexible schedule that varies from day to day and from week to week, Examiner Cirim may generally be reached at the Office during the work week between the hours of 10 a.m. and 6 p.m. ET.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dave Scherbel, can be reached on (703) 308-1272.

The NEW central official fax phone number is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703) 308-0861.

lvc

January 11, 2004

  
LJILJANA V. CIRIC  
PRIMARY EXAMINER  
ART UNIT 3753